

# EZ4000 SERIES

## On-line Titrimetric Analyzers Analysis of Alkalinity

### Applications

- Waste water
- Drinking water
- Power
- Surface water



## On-line, automatic titration of chemical parameters in various water monitoring applications

The **EZ4000 Series** are state of the art titrators built on an industrial analytical platform run by AppliTek's proprietary controller-database software. From the high precision dispenser for addition, robust peristaltic pumps for sampling and drain, and carefully designed liquid pathways all add up to the highest performance for industrial and environmental analysis needs.

Each and every application starts with the basics: the right titrimetric technique in function of the parameter(s) of interest, the measuring range and the water matrix. The **EZ4000 Series** may use either potentiometry i.e. acid-base, redox or precipitation titration, where the endpoint is determined by a change in a specific variable, or photolorimetry, where color change is used to determine the endpoint of the titration.

The single-parameter **EZ4000 Series** combine an unparalleled expertise in on-line titration with a set of unique analysis, control and communication features in a compact footprint:

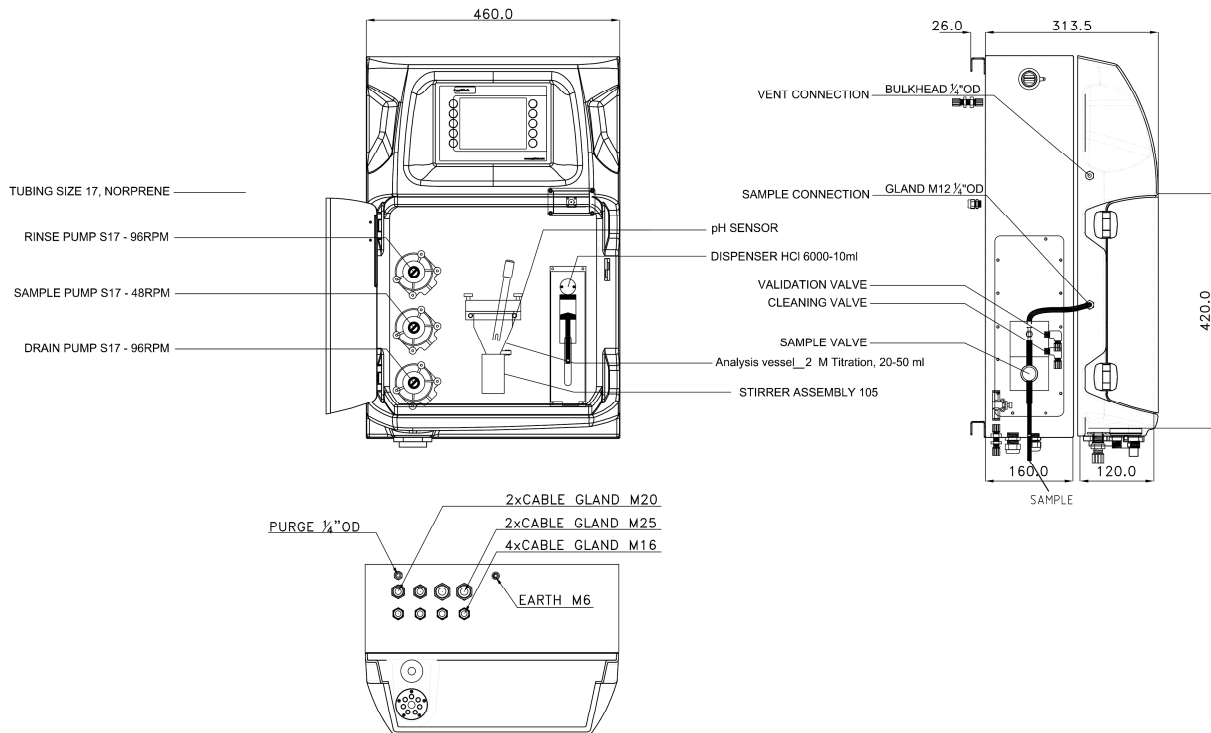
- Unique flexibility in titration methods
- Smart automatic features
- Control and communication via industrial panel PC
- Standard 4 - 20 mA signal output with alarm processing
- Communication ports supporting connectivity to Modbus
- Multiple stream analysis

## Technical data\*

<b>Analysis method</b>	Acid-base titration with hydrochloric acid
<b>Parameter</b>	Total alkalinity or free alkalinity
<b>Measuring range</b>	10 – 5000 mg/L CaCO <sub>3</sub>
<b>Cycle time</b>	10 – 15 minutes
<b>Limit of quantification (LOQ)</b>	≤ 10 mg/L
<b>Precision/Repeatability</b>	Better than 2% full scale range for standard test solutions
<b>Cleaning</b>	Automatic; frequency freely programmable
<b>Calibration</b>	N.A.
<b>Validation</b>	Automatic; frequency freely programmable
<b>Interferences</b>	Soaps, oily matter, suspended solids or precipitates may coat the glass electrode and cause a sluggish response. Allow additional time between titrant additions to let the electrode come to equilibrium or clean the electrodes occasionally.
<b>Ambient operating conditions</b>	10 °C – 30 °C +/- 4 °C deviation (50 °F – 86 °F +/- 7.2 °F deviation) at 5 - 95% relative humidity non-condensing
<b>Reagent temperature</b>	Keep between 10 °C - 30 °C (50 °F - 86°F)
<b>Sample pressure</b>	By external overflow vessel
<b>Sample flow rate</b>	100 - 300 ml per minute
<b>Other sample requirements</b>	Temperature: 10 °C – 30 °C (50 °F – 86 °F); Maximum size 100 µm, < 0.1 g/l; Turbidity < 50 NTU
<b>Power</b>	220 - 240 VAC, 2 A, 50/60 Hz Max. power consumption: 150 VA; Other voltages available on request
<b>Instrument air</b>	Dry and oil free according to ISA-S7.0.01-1996 quality standard for instrument air
<b>Deminerlized water</b>	For rinsing purposes (application depending)
<b>Drain</b>	Atmospheric pressure, vented, min. Ø 64 mm
<b>Earth connection</b>	Dry and clean earth pole with low impedance (< 1 ohm) using an earth cable of > 2.5 mm <sup>2</sup>
<b>Analogue outputs</b>	Active 4 - 20 mA max. 500 Ohm load, standard 1, max. 8 (option)
<b>Digital outputs (option)</b>	MODBUS, RS232, RS485
<b>Alarms</b>	1 x malfunctioning, 4 x user-configurable, max. 24 VDC/0.5 A, potential free contacts
<b>Protection class</b>	Analyzer cabinet: IP55 / Panel PC: IP65
<b>Materials, hinged part</b>	Thermoform ABS, Door: plexiglass
<b>Materials, wall section</b>	Galvanized steel, powder coated
<b>Dimensions (H X W X D)</b>	69 cm (27.2") x 46.5 cm (18.3") x 33 cm (13")
<b>Total weight</b>	25 kg (55 lbs.)
<b>Certification</b>	CE compliant / UL certified
<b>Warranty</b>	2 years

\* Subject to change without further notice.

## Dimensions - Drawings



## Service packages

### Start-Up/Commissioning:

Our service technicians visit your site and setup instrumentation, provide basic end-user training on operations and maintenance, and validate settings and performance to get you started.

### Service Agreement:

Hach provides on-site and in-factory repair, preventive maintenance, and calibration programs for your instruments to ensure reliability and instrument up-time. We have services to fit your specific needs.

*Contact us to learn about what Hach Service option is right for you.*

## Order information

EZ4003.99XXXXX

EZ4000 Series, Free alkalinity, 0 – 5000 mg/L

EZ4004.99XXXXX

EZ4000 Series, Total alkalinity, 0 – 5000 mg/L

### All options (see Configurator)

E	Z	4	0	X	X	.	9	9	X	X	X	X	X	X	2
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#### Measurement range settings / Dilution options

10% of standard range	A
25% of standard range	B
50% of standard range	C
standard range	0
customized	Z

#### power supply

Standard 110 - 220 VAC ; 50/60 Hz	0
Customized	Z

#### number of sample streams

1 stream	1
2 streams	2
3 streams	3
4 streams	4
5 streams	5
6 streams	6
7 streams	7
8 streams	8

#### Outputs

1x mA	1
2x mA	2
3x mA	3
4x mA	4
5x mA	5
6x mA	6
7x mA	7
8x mA	8
RS232	A
Modbus TCP/IP	B
Modbus RS485	C
AnaCommDa	D
1x mA + Modbus RS485	E
2x mA + Modbus RS485	F
3x mA + Modbus RS485	G
4x mA + Modbus RS485	H
1x mA + Modbus TCP/IP	I
2x mA + Modbus TCP/IP	J
3x mA + Modbus TCP/IP	K
4x mA + Modbus TCP/IP	L
Customized / combined	Z

#### Specials

no adaption, standard version	0
customer specific adaptations required, to specify	S